

Claims:

1. A wastewater treatment system comprising a magnetism adding means for adding magnetism to material to be separated in wastewater, and a superconducting magnetic separation means for separating the material from the wastewater by collecting the magnetism-added material through the magnetic field generated by a solenoid-type superconducting magnet, characterized in that:

said magnetism adding means adds magnetism to the material by attaching the material to magnetism-seeded porous material, activated carbon or carrier used as a sorption agent.

2. A wastewater treatment system comprising a magnetism adding means for adding magnetism to material to be separated in wastewater, and a superconducting magnetic separation means for separating the material from the wastewater by collecting the magnetism-added material through the magnetic field generated by a solenoid-type superconducting magnet, characterized in that:

said superconducting magnetic separation means comprises in a bore of the superconducting magnet a removably built-up multiunit magnetic filter consisting of a plurality of single-unit magnetic filters, and the multiunit magnetic filter has the longitudinal length at least equal or greater than that of the superconducting magnet.

3. The wastewater treatment system as claimed in claim 2, characterized in that the system further comprises a transfer

and wash means for removing a single-unit magnetic filter from an upstream side (sewage side) of said multiunit magnetic filter by pushing in another single-unit magnetic filter from a downstream side (clean water side), and for washing and returning the removed filter to the downstream side again during excitation of the superconducting magnet.

4. The wastewater treatment system as claimed in claim 3, characterized in that:

said magnetism adding means adds magnetism to the material to be separated by attaching the material in the wastewater to the magnetism-seeded sorption agent in a treatment tank, and

said washing of the single-unit magnetic filters is performed in the treatment tank so that the sorption agent attached to the single-unit magnetic filters may be released and returned directly to the treatment tank.

5. The wastewater treatment system as claimed in claim 4, based on a microorganism immobilization method, characterized in that said sorption agent is a microorganism-adhered carrier.

6. A wastewater treatment system comprising a means for adding magnetism to material to be separated in wastewater, and a superconducting magnetic separation means for separating the material from the wastewater by collecting the magnetism-added material through the magnetic field generated by a solenoid-type superconducting magnet, characterized in that:

said superconducting magnetic separation means comprises a pair of magnetic filters connected to each other and movable

in a longitudinal direction through a bore of the superconducting magnet, the movement enabling the switching of the magnetic filter for alternate use in such a way that while one magnetic filter is used for wastewater treatment in the bore of the magnet, the other magnetic filter can be backwashed outside the bore.